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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,102

08/18/2003

Mark Krier

E108-US

3314

7590

11/17/2004

Mark Wardas  
P.O. Box 2192  
La Jolla, CA 92038

EXAMINER

A, MINH D

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/643,102

Applicant(s)

KRIER ET AL.

Examiner

Minh D A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-25 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9, 12-13, 16, 18-25 are rejected under 35 U.S.C. 102(b) as being unpatentable by Sanford et al (US 6,424,300).

Regarding claims 1, 3, 9, 18, 21 and 23, Sanford discloses a wireless communication comprising: a first portion (714); a second portion (712); a third portion (708), the third portion (708) coupled to the first portion (714) and to the second portion (712); and a substrate (704), the substrate (704) comprising at least one void (701), wherein the first portion (714), the second portion (712), and the third portion (708) define a capacitively coupled dipole antenna (700), and wherein the antenna (700) is coupled to the substrate(704). See figures 7A-8D, col.17, lines 8-67 to col.19, lines 1-36.

Regarding claim 2, Sanford discloses wherein the antenna (7000) is configured to operate at a frequency selected from a group consisting of a GPS, and cellular phone frequency. See figures 1-8D.

Regarding claim 4, Sanford discloses wherein the third portion (708) comprises a length having a first end and a second end, and wherein the length is longer than a straight line distance between the first end and the second end. See figure 7B.

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Regarding claims 5-6, Sanford discloses wherein one or more portion of the third portion (716b) is disposed relative to the first portion (714) and the second portion (712) in a non-parallel relationship. See figures 7A-8D.

Regarding claim 12, Sanford discloses wherein the system comprises a plurality of circuits. See figures 1-8D.

Regarding claim 13, Sanford discloses wherein the antenna is configured to operate at a frequency selected from the group consisting of a GPS and a cellular phone frequency. See figures 1-8D.

Regarding claim 16, Sanford discloses wherein the system is selected from a group consisting of: a button, a phone.

Regarding claim 19, Sanford discloses wherein the antenna further comprises a substrate (704). See figures 7A-8D.

Regarding claim 20, Sanford discloses wherein within the periphery the substrate defines a void, and wherein the capacitance generally spans the void. See figures 1-8D.

Regarding claim 22, Sanford discloses wherein the substrate is defined by a periphery, wherein within the periphery the substrate defines a void, and wherein the capacitive area generally spans the void. See figures 4A to 11C, col.11, lines 25-67 to col.21, lines 1-45.

Regarding claim 25, Sanford discloses the at least two of the antennas comprise capacitor coupled dipole antennas. See figures 4-11C.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-8, 10-11 and 15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Sanford et al (US 6,424,300) in view of Shamir et al (US 2004/0135726A1).

Regarding claims 7-8, 10-11, Sanford discloses the claimed on invention except a high dissipation factor substrate or a FR4 substrate. However, Shamir discloses a high dissipation factor substrate or a FR4 substrate. See col.3, lines [0030] to lines [[0031].

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ a FR4 substrate such as that suggested by Shamir in the system of Sanford to provide a high dielectric constant and decrease the effective wavelength of the electrical signal at antenna.

5. Claims 15,17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Sanford et al (US 6,424,300) in view of Ohoka et al (US 6,281,854).

Regarding claims 15, 17 and 24, Sanford discloses claimed of invention except a wrist type apparatus. However, Ohoka discloses a wrist apparatus. See col.1, lines 12-26.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ a wrist apparatus such as that suggested by Ohoka in the system of Sanford to provide a small or thin antenna or small antenna device for generating a high frequency.

***Allowable Subject Matter***

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach that, the substrate comprises a second void, wherein at least one of the plurality of circuits is disposed within the second void recited in independent claim 14.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Honda (US 6,515,630) and Matsuyoshi et al. (US 6,549,169) are cited to show an antenna for wireless communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

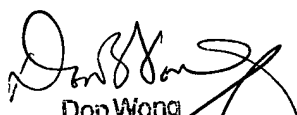
Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

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11/01/04

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800